$$\Delta H^0 = \Delta H_f^0(\text{products}) - \Delta H_f^0(\text{reactants})$$

TRANSPARENCY MASTER

Thermodynamic Data

95A

Substance	ΔH_f^0 (kJ/mol)	S^0 (J/mol•K)	ΔG_f^0 (kJ/mol)
Ag(*s*)	0.0	42.7	0.0
AgCl(*s*)	–127.1	96.2	–109.8
$AgNO_3$(*s*)	–124.4	140.9	–33.5
Al(*s*)	0.0	28.3	0.0
$AlCl_3$(*s*)	–705.6	110.7	–628.9
Al_2O_3(*s, corundum*)	–1676.0	51.0	–1582.4
Br_2(*l*)	0.0	152.2	0.0
Br_2(*g*)	30.9	245.5	30.9
C (*s, diamond*)	1.9	2.4	2.90
C (*s, graphite*)	0.0	5.7	0.0
CCl_4(*l*)	–132.8	216.2	–65.3
CCl_4(*g*)	–95.8	309.9	–60.2
CH_3OH(*l*)	–239.1	127.2	–166.4
CH_4(*g*)	–74.9	186.3	–50.8
CO(*g*)	–110.5	197.6	–137.2
CO_2(*g*)	–393.5	213.8	–394.4
CS_2(*g*)	117.1	237.8	67.2
C_2H_6(*g*)	–83.8	229.1	32.9
C_2H_4(*g*)	52.5	219.3	68.1
C_2H_5OH(*l*)	–277.0	161.0	–174.9
C_3H_8(*g*)	–104.7	270.2	–24.3
C_4H_{10}(*g, n-butane*)	–125.6	310.1	–16.7
HF(*g*)	–272.5	173.8	–273.2
HNO_3(*g*)	–134.3	266.4	–74.8
H_2O(*g*)	–241.8	188.7	–228.6
H_2O(*l*)	–285.8	70.0	–237.2
H_2O_2(*l*)	–187.8	109.6	–120.4
H_2S(*g*)	–20.5	205.7	–33.6
H_2SO_4(*l*)	–814.0	156.9	–690.1
K(*s*)	0.0	64.7	0.0
KCl(*s*)	–436.7	82.6	–409.2
KNO_3(*s*)	–494.6	133.0	–394.9
KOH(*s*)	–424.7	78.9	–379.1
Li(*s*)	0.0	29.1	0.0
LiCl(*s*)	–408.6	59.3	–384.4
LiOH(*s*)	–484.9	42.8	–439.0
Mg(*s*)	0.0	32.7	0.0
$MgCl_2$(*s*)	–641.6	89.6	–591.8
Hg(*l*)	0.0	76.0	0.0
Hg_2Cl_2(*s*)	–264.2	192.5	–210.8
HgO(*s, red*)	–90.8	70.3	–55.6
N_2(*g*)	0.0	191.6	0.0
NH_3(*g*)	–45.9	192.8	–16.5
NH_4Cl(*s*)	–314.4	94.6	–203.0
NO(*g*)	90.3	210.8	86.6

Substance	ΔH_f^0 (kJ/mol)	S^0 (J/mol•K)	ΔG_f^0 (kJ/mol)
C_6H_{14}(*g, n-hexane*)	–167.1	388.4	0.0
C_7H_{16}(*g, n-heptane*)	–187.7	427.9	8.0
C_8H_{18}(*g, n-octane*)	–208.6	466.7	16.3
C_8H_{18}(*g, iso-octane*)	–224.0	423.2	12.6
$CaCO_3$(*s*)	–1206.9	92.9	–1128.8
$CaCl_2$(*s*)	–795.8	108.4	–748.1
$Ca(OH)_2$(*s*)	–986.1	83.4	–898.6
Ca(*s*)	0.0	41.6	0.0
CaO(*s*)	–634.9	38.2	–604.04
Cl_2(*g*)	0.0	223.1	0.0
Cu(*s*)	0.0	33.2	0.0
$CuCl_2$(*s*)	–220.1	108.1	–175.7
$CuSO_4$(*s*)	–770.0	109.3	–661.9
F_2(*g*)	0.0	202.8	0.0
Fe(*s*)	0.0	27.3	0.0
$FeCl_3$(*s*)	–399.4	142.3	–334.05
Fe_2O_3(*s, hematite*)	–824.8	87.4	–742.2
Fe_3O_4(*s, magnetite*)	–1120.9	145.3	–1015.5
H_2(*g*)	0.0	130.7	0.0
HBr(*g*)	–36.4	198.6	–53.4
HCl(*g*)	–92.3	186.8	–95.3
HCN(*g*)	135.1	201.7	124.7
NO_2(*g*)	33.1	240.0	51.3
N_2O(*g*)	82.4	220.0	104.2
N_2O_4(*g*)	9.1	304.4	97.8
Na(*s*)	0.0	51.5	0.0
NaCl(*s*)	–411.2	72.1	–384.2
NaOH(*s*)	–425.9	64.4	–379.5
O_2(*g*)	0.0	205.0	0.0
O_3(*g*)	142.7	238.9	163.2
Pb(*s*)	0.0	64.8	0.0
$PbCl_2$(*s*)	–359.4	136.2	–317.9
PbO(*s, red*)	–219.0	66.3	–188.95
S(*s*)	0.0	32.1	0.0
SO_2(*g*)	–296.8	248.1	–300.2
SO_3(*g*)	–395.8	256.8	–371.1
Si(*s*)	0.0	18.8	0.0
$SiCl_4$(*g*)	–657.0	330.9	–617.0
SiO_2(*s, quartz*)	–910.9	41.5	–856.7
Sn(*s, white*)	0.0	51.6	0.0
Sn(*s, gray*)	–2.1	44.1	0.13
$SnCl_4$(*l*)	–511.3	258.6	–440.2
Zn(*s*)	0.0	41.6	0.0
$ZnCl_2$(*s*)	–415.0	111.5	–369.4
ZnO(*s*)	–348.3	43.6	–318.32